



United States Department of the Interior

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FISH AND WILDLIFE SERVICE
Wheeler National Wildlife Refuge
2700 Refuge Headquarters Road
Decatur, Alabama 35603

23 December, 1999

Memorandum

To: Wildlife Management Biologist, Memphis, TN

From: Darrin P. Speegle

Subject: Annual Water Management Plan

Don, enclosed is Wheeler's 2000 Water Management Plan. Please review and forward to Bill Grabill for approval. There have been changes made in drawdown schedules in the White Springs Unit, which are noted in the plan. The Buckeye Unit is next in line for rehabilitation and in an effort to maintain what we have gained in White Springs, we are going to expand the experimental water level manipulation (as per Murrey's recommendation) from White Springs #3 to White Springs #2, #4, and #5. This will allow evaluation of the experimental management regime on a greater scale and reduce the active management element, thereby, permitting more man-hours on the Buckeye rehabilitation project. If you have any comments or questions don't hesitate to call me at (256)353-7243.

Sincerely,

Darrin P. Speegle, Wildlife Biologist

JAN 11 2000

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
2000

Recommended: *C. Dwight Cooley* Date: 01/06/2000
for Project Leader

Prepared by: *Harold P. Seeger* Date: 23 DEC 99
Wildlife Biologist

Reviewed by: *Don H. Du* Date: 01/20/00
WHM Biologist

Approved by: _____ Date: _____
District Manager, Area II

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
2000

I. WATER MANAGEMENT UNITS

Extremely dry conditions from July through December caused poor food production refuge-wide. Rainfall for this period was almost one foot below average.

WHITE SPRINGS UNIT (WS)

In 1999, White Springs was dry enough to finish cleaning all of the primary sub-impoundment ditches and some shoreline. Ditch lines were cleared of woody vegetation by an excavator with a mowing head attachment, giving the unit a more open appearance. Slash was piled by dozer and was burned in accordance with the Fire Management Plan. Old beaverdams and high spots in the ditch were removed. This has simplified water management procedures.

WS #1A - This is the main artery in the western section of WS. WS #1A is used to dewater WS #1B, WS #2, WS #3, WS #4, WS #5 and possibly WS #6 late in the season. Water is released through WS #1 water control structure and goes under Highway 31 to the Whiteside Pump Station. Whiteside also dewateres portions of Swan Creek State Management Area.

WS #2 - This is a small area and cannot be dewatered until WS #1A is lowered. Beaver problems/vegetation clogging the water control structure causes intensive management. For example, structures must be opened in the morning and closed in the afternoon to prevent beavers from damming the structure. WS #2 also has an alligator weed problem at lower levels. The west side (WS #2a) is a semi-upland area and can be farmed. The east side is lower and more conducive to moist soil management.

WS #3 - This unit cannot be dewatered until WS #1A is lowered. It is a good, flat unit with good moist soil potential. The unit was cleared of woody vegetation but is still covered by alligator weed. WS #3 was a test area this year for alligator weed control. The unit drawdown schedule was modified to allow water levels to be held at the historical maximum for a longer period of time. Alligator weed was still the number one component of the unit.

WS #4 - This unit is a potentially excellent food producer. It has beaver problems much like WS #2. The dike was raised and access improved onto the refuge from Lonesome Pine Road. Willows have been removed along the north side of the ditch including lower areas in the unit. Slash has been burned on both sides of the ditch and rehabilitation is 70 percent complete.

WS #5 - This is a small area near the north end of I-65 Bridge on the west side. It is almost a mirror image of WS #4. The water control structure still needs replacing.

WS #1B - This is a large unit west of I-65 and north of the river. It is the origin of the main ditch flowing through White Springs. This unit is large with significant elevation changes of ± 4 feet. This gives the opportunity to plant corn, beans, milo, or millet in the higher elevations. Lower areas are used to produce moist soil food plants. As the unit is gradually flooded, it provides a great diversity of food for wintering waterfowl.

WS #6 - This unit is primarily used for agricultural production. A small portion of the unit is at a lower elevation. This lower area is a good producer of moist soil foods, but needs disking every three years. WS #6 is dewatered by gravity flow into Limestone Bay in February and March. After March, a Gator pump (portable high capacity/high volume pump) is used to dewater. A permanent pumping station is planned for this unit.

PENNEY BOTTOMS

We are managing this primarily as a farm unit with a 50 acre moist soil component. The area is drained by gravity flow in mid-March. A Gator pump is then used to maintain the low water level. Ideally, we plant corn on the field portions of the unit and produce natural foods in the dewatered slough-bed. In 1999, the unit was dewatered and lightly disced.

ROCKHOUSE #1 and #2

This is a farmed unit where the lowest portions of the fields can be planted later in the year to millet or left alone if natural foods are good. We do not want to plant these areas to harvestable crops because they will flood or be too wet to harvest in the fall. Rockhouse #2 is managed in conjunction with Rockhouse #1. The difference being that Rockhouse #2 is at a higher elevation than Rockhouse #1.

BUCKEYE

Two springs in the north end of the unit can be used to keep it wet. Keeping the unit dry is a challenge. Rockhouse 1 has to be lower than Buckeye to dewater this area. Open areas can be planted to beans or milo, but not corn. The unit has dense mats of alligator weed and knot grass (*Paspalum*). Rehabilitation of this unit started in August 1999, and good progress was made. Rehabilitation efforts will take first priority in 2000.

THORSON ARM

This is a long, narrow impoundment east of Buckeye separated by a shallow canal. The north side was used for several years as alligator weed/Arsenal test plots. The south side has also been treated with Arsenal, but mowing late in the year seems to be the most efficient way to manage. In 1999, the Thorson Arm Unit had a good start on moist-soil plant production, but was plowed under and planted to milo, which was killed by the drought. The cooperative farming agreement provided for the planting of milo. However, farming agreements in the future will be amended to allow moist soil management on an as needed basis in areas previously agreed to be farmed.

DEVANEY UNIT

This is the newest addition to Wheeler NWR. On 21 September, 1999 Southern Natural Gas and the U.S. Fish and Wildlife Service closed on this property. This 185-acre wetland mitigation property is adjacent of the northeast portion of Buckeye. With year one of the restoration plan complete year two will include: 1.) restoration of wetland hydrology to approximately 55 acres by placing stoplogs in the existing water control structure 2.) Manipulating the water level to produce moist soil plants 3.) Planting a protective buffer of mixed hardwood tree species on the northern boundaries. Subsequently, a water management schedule will be drafted to manage this unit. In the past, the property was used by a duck hunting club and shows great potential for wintering waterfowl habitat.

BLACKWELL SWAMP

Basically, we will continue to manage at full pool until after the spring rush of fishermen. Then we will slowly draw down approximately two feet to expose the gently sloping banks producing moist soil food plants. Then in early fall, bring water levels back up to the full pool level.

CRABTREE SLOUGH

This unit provides excellent waterfowl habitat with an abundance of Eurasian watermilfoil. We attempt to maintain a constant water level. Lotus was sprayed by airboat in 1999 and will need spraying in 2000.

DINSMORE SLOUGH

Dinsmore Slough has always been a good waterfowl use area. It was impounded in 1998 to improve management capabilities. Construction began in October of 1998 and was completed in December of 1998. Dinsmore contains 130 acres of manageable water. Wheeler has complete control of the water from June through January. February through May water flow is regulated by a TVA/U.S.F.W.S. agreed schedule. We have found in 1999, that a stationary pump will be required to maintain desirable water levels and should be in place by fall 2000.

II. PUMP STATIONS

Whiteside Pump Station

We have to share the pumping capacity with Swan Creek State Management Area. Pumps normally ran from May 1 through September 1.

State Contacts: Steve Bryant & Dudley White 353-2634
TVA Contact : Randy McCann 582-3416

Shared cost: May 1-September 1 (State-20%, TVA-50%, FWS-30%)
September 1-May 1 (State-40%, FWS-60%)

Rockhouse Pump Station

We get full benefit of this pump. Pumps normally run from May 1 through Sept 1. Randy McCann is the contact.

Shared cost: May 1-September 1 (TVA-50%, FWS-50%)
September 1-May 1 (FWS-100%)

Our annual cost to run both pumps is \$12-\$15,000. The good news is, we pay TVA annually for the pumping and through TVA, Land Management, we can spend the same \$12-15,000 through TVA and put it back into our management and maintenance of the dike and impoundments. We have bought gravel, rip-rap, rented trucks, contracted for a mowing crew to remove hardwood growth, bought tubing for gator pumps, repaired tractors, and dozers, etc. Unfortunately, approval for this type of reimbursement continues to be difficult.

NOTE:

The Buckeye unit will take priority in rehabilitation in 2000. In an effort to allow good moist soil plant species to out compete alligator weed, water levels in White Springs #2, #3, #4, and #5 will deviate from the normal drawdown schedule and be held at higher levels for a longer time with a slower dewatering rate as per U.S.G.S. recommendation.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
2000

Unit: White Springs #1A

Acres: 355

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	552.84	554.50
Jan. 15	554.30	555.00
Feb. 1	556.70	554.50
Feb. 15	555.44	554.00
Mar. 1	553.98	553.50
Mar. 15	553.60	553.00
Apr. 1	553.00	552.50
Apr. 15	553.90	552.00
May 1	554.26	551.50
May 15	550.94	551.00
Jun. 1	24" BG	550.00
Jun. 15	24" BG	550.00
Jul. 1	17" BG	550.00
Jul. 15	24" BG	550.00
Aug. 1	24" BG	550.00
Aug. 15	24" BG	550.00
Sep. 1	18" BG	550.00
Sep. 15	06" BG	551.00
Oct. 1	550.40	551.50
Oct. 15	551.10	552.00
Nov. 1	551.70	552.50
Nov. 15	551.72	553.00
Dec. 1	551.80	553.50
Dec. 15	552.10	554.00

BG = Below Gauge

1999

White Springs (WS) #1A is divided into three subsections (a, b, and c) due to orientation and elevation and was not actively managed in 1999. White Springs #1Aa (a fast drying semi-upland area) produced broom sedge, willow, marsh mallow, smartweed, and alligator weed. WS #1Ab, a lower sub-impoundment, was composed of aster, willow, broom sedge, cocklebur, and alligator weed. WS #1Ac, a sloping area, produced willow, ash, aster, goldenrod, and sicklepod. Encroaching maple and ash on field edges were dozed, piled, and burned. Mallards, black ducks, wigeon, and gadwall were the most prevalent species.

2000

White Springs #1A will be farmed in 2000. WS #1Ac will be considered for more extensive rehabilitation in 2001.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
2000

Unit: White Springs #2

Acres: 85

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	552.46	554.50
Jan. 15	553.40	555.00
Feb. 1	556.70	555.00
Feb. 15	555.46	555.00
Mar. 1	553.90	555.00
Mar. 15	553.00	555.00
Apr. 1	553.00	555.00
Apr. 15	553.90	554.50
May 1	554.00	554.00
May 15	552.70	553.50
Jun. 1	551.30	553.00
Jun. 15	06" BG	552.50
Jul. 1	06" BG	552.00
Jul. 15	06" BG	551.50
Aug. 1	02" BG	551.00
Aug. 15	02" BG	550.00
Sep. 1	16" BG	550.00
Sep. 15	16" BG	551.00
Oct. 1	14" BG	551.50
Oct. 15	550.50	552.00
Nov. 1	551.68	552.50
Nov. 15	551.72	553.00
Dec. 1	551.68	553.50
Dec. 15	551.68	554.00

BG = Below Gauge

1999

White Springs (WS)#2 is divided into two sub-units (a & b). WS #2a, the more upland unit, was almost equally distributed with broom sedge, willow, Spanish needles, cocklebur, and alligator weed. WS #2b, the lower unit, was composed of Cocklebur and aster which was matted by alligator weed. Wild millet and smartweed were found in spots along the ditch with distribution great enough to be ranked number four and five respectively. In WS #2a and WS #2b all ditches were cleaned and all slash piles were burned. Alligator weed is a continuing problem in this unit. Mallards, black ducks, wigeons, and gadwall were found here in relatively heavy concentrations throughout the season. Canvasbacks seemed to favor this unit all season.

2000

WS #2(a & b) will be managed much like WS #3 was in 1999. Water levels will be held high until mid-April. Then, they will be slowly lowered to allow good moist soil plant species to out compete alligator weed.

ANNUAL WATER MANAGEMENT PLAN
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2000

Unit: White Springs #3

Acres: 75

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	552.86	554.50
Jan. 15	553.66	555.00
Feb. 1	556.00	555.00
Feb. 15	555.40	555.00
Mar. 1	554.80	555.50
Mar. 15	554.86	555.00
Apr. 1	554.70	555.00
Apr. 15	554.70	555.00
May 1	554.20	555.00
May 15	554.30	554.50
Jun. 1	554.28	554.00
Jun. 15	553.60	553.50
Jul. 1	553.00	553.00
Jul. 15	550.70	552.50
Aug. 1	550.70	552.00
Aug. 15	550.00	551.00
Sep. 1	12" BG	550.00
Sep. 15	10" BG	550.50
Oct. 1	550.10	551.00
Oct. 15	550.10	551.50
Nov. 1	551.50	552.00
Nov. 15	551.70	553.50
Dec. 1	551.70	554.00
Dec. 15	552.00	554.50

BG = Below Gauge

1999

White Springs (WS)#3 was managed as a moist soil unit as discussed after the MSMA training with Murry Laubhan, U.S.G.S., and Don Orr, U.S.F.W.S. A slow drawdown started in late April. Slash piles were burned in August. Alligator weed was the primary vegetative component. Cocklebur and wild millet were nearly equally distributed in the unit. Asters and trumpet vine covered the higher ground. Waterfowl used this unit sporadically throughout the season. WS #3 was used by most all species of ducks in varying concentrations.

2000

White Springs #3 will again be on an altered drawdown schedule. Water levels will be held well above normal and a slow drawdown will start in May in an effort to let good moist soil plant species out compete alligator weed. In 1999, it is assumed that water levels were not held high enough for a long enough time.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
2000

Unit: White Springs #4

Acres: 75

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	553.20	554.50
Jan. 15	554.30	555.00
Feb. 1	556.70	554.50
Feb. 15	555.30	554.00
Mar. 1	554.64	553.50
Mar. 15	554.74	553.50
Apr. 1	554.50	553.50
Apr. 15	554.50	553.50
May 1	554.50	553.50
May 15	553.40	553.50
Jun. 1	551.20	553.50
Jun. 15	550.00	553.00
Jul. 1	551.20	552.50
Jul. 15	551.00	552.00
Aug. 1	551.00	551.50
Aug. 15	551.00	551.00
Sep. 1	550.50	550.50
Sep. 15	550.00	551.00
Oct. 1	551.00	551.50
Oct. 15	551.00	552.00
Nov. 1	551.00	552.50
Nov. 15	551.00	553.00
Dec. 1	551.10	553.50
Dec. 15	552.00	554.00

1999

White Springs (WS)#4 was completely rehabilitated. Aster, broom sedge, and cocklebur dominated the unit. Alligator weed formed a thin mat throughout the unit. Excellent, but spotty, patches of yellow root sedge were also found throughout the unit. WS #4 was moderately used by waterfowl. Mallards, pintail, gadwall, and wigeon were still the main users.

2000

White Springs #4 will revert to the original water management schedule and be managed as a moist soil unit.

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2000

Unit: White Springs #5

Acres: 45

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	553.20	554.50
Jan. 15	554.30	555.00
Feb. 1	556.70	554.50
Feb. 15	555.30	554.00
Mar. 1	554.64	554.00
Mar. 15	554.74	554.00
Apr. 1	554.50	554.00
Apr. 15	554.50	554.00
May 1	554.50	554.00
May 15	553.40	554.00
Jun. 1	551.90	553.50
Jun. 15	550.00	553.00
Jul. 1	551.20	552.50
Jul. 15	551.00	552.00
Aug. 1	551.00	551.50
Aug. 15	551.00	551.00
Sep. 1	550.50	550.50
Sep. 15	550.00	550.50
Oct. 1	551.00	550.00
Oct. 15	551.00	551.50
Nov. 1	551.00	552.00
Nov. 15	551.00	552.50
Dec. 1	551.10	553.00
Dec. 15	552.00	554.00

1999

Rehabilitation of White Springs (WS)#5 is making good progress. Slash piles still need burning, the waterway needs cleaning, and a new water control structure needs to be put in place. No active management took place in 1999. Wild millet and cocklebur were the dominant species. Alligator weed was present, but not prevalent. Waterfowl usage was low throughout the season. WS #5 was used almost exclusively by mallards.

1999

White Springs #5 will be managed as a moist soil/alligator weed control test unit. WS #5 will not be dewatered until late May. The structure will be replaced in early fall.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
2000

Unit: White Springs #1B

Acres: 600

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	552.80	553.50
Jan. 15	554.20	554.00
Feb. 1	556.70	554.00
Feb. 15	555.40	554.00
Mar. 1	553.92	554.00
Mar. 15	553.60	553.50
Apr. 1	553.00	553.50
Apr. 15	553.80	553.50
May 1	554.20	553.00
May 15	551.40	552.50
Jun. 1	550.54	552.00
Jun. 15	550.00	551.50
Jul. 1	550.00	551.00
Jul. 15	550.00	550.50
Aug. 1	02" BG	550.00
Aug. 15	02" BG	550.00
Sep. 1	02" BG	550.50
Sep. 15	04" BG	551.00
Oct. 1	04" BG	551.50
Oct. 15	551.10	552.00
Nov. 1	551.60	552.50
Nov. 15	551.70	553.00
Dec. 1	551.70	553.00
Dec. 15	552.05	553.50

BG = Below Gauge

1999

White Springs (WS) #1B is divided into four sub-impoundments (a, b, c, & d). Divisions are determined by differing elevations within the impoundment. WS #1Ba was planted to millet, which did not produce due to the drought conditions. WS #1Bb had an excellent wild millet crop at the margins of the ditch. Sesbania, willow, aster, and sicklepod covered the rest of the unit. WS #1Bc was planted to millet by a refuge cooperative farmer, but never got over four inches tall. WS #1Bd produced cocklebur, aster, balloon vine, alligator weed, and wild millet respectively. This was a moderate to high waterfowl use unit. Primarily mallards, black ducks, wigeon, and gadwall used this area.

2000

White Springs #1B(a, b, c,&d) will be farmed by cooperative farmers and the refuge will plant areas not in agricultural production.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
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Unit: White Springs #6

Acres: 300

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	554.10	555.00
Jan. 15	554.90	554.50
Feb. 1	554.10	554.00
Feb. 15	552.80	553.00
Mar. 1	553.10	552.00
Mar. 15	553.90	551.00
Apr. 1	552.70	550.00
Apr. 15	553.86	550.00
May 1	554.00	550.00
May 15	553.00	550.00
Jun. 1	553.00	550.00
Jun. 15	554.00	550.00
Jul. 1	554.30	550.00
Jul. 15	554.30	550.00
Aug. 1	554.50	550.00
Aug. 15	554.50	550.00
Sep. 1	554.30	551.00
Sep. 15	553.90	551.50
Oct. 1	553.60	552.00
Oct. 15	553.50	552.50
Nov. 1	553.30	553.00
Nov. 15	553.20	553.50
Dec. 1	553.20	554.00
Dec. 15	553.30	554.50

1999

White Springs #6 was in agricultural production in 1999. Areas not in agricultural production were mowed to maintain "open" areas. This was a moderate waterfowl use unit.

2000

White Springs #6 will be in agricultural production in 2000.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
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Unit: Penney Bottoms

Acres: 100

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 8	!!!!!!	555.50
Jan. 15	!!!!!!	555.50
Feb. 1	!!!!!!	554.50
Feb. 15	!!!!!!	554.00
Mar. 1	!!!!!!	553.50
Mar. 15	!!!!!!	553.00
Apr. 1	552.90	553.00
Apr. 15	554.58	553.00
May 1	552.60	553.00
May 15	553.20	553.00
Jun. 1	552.60	553.00
Jun. 15	553.60	553.00
Jul. 1	553.60	553.00
Jul. 15	553.50	553.00
Aug. 1	553.40	553.00
Aug. 15	553.00	553.00
Sep. 1	552.00	553.50
Sep. 15	552.00	553.50
Oct. 1	552.00	554.00
Oct. 15	552.00	554.00
Nov. 1	553.20	554.50
Nov. 15	553.00	554.50
Dec. 1	552.92	554.50
Dec. 15	553.40	555.00

!!!!!! = Gauge Down

1999

Penney Bottoms Unit was rehabilitated in late August and early September. The slough bottom was mowed and lightly disced. Waterfowl use was low throughout the season.

2000

Penney Bottoms will return to basically it's original water management scheme. Moist soil areas will be evaluated for response to the discing. If alligator weed is prevalent next year, we may use the same experimental scheme as we did in White Springs #3. Water levels would be held longer at higher elevations and then slowly dewatered.

ANNUAL WATER MANAGEMENT PLAN
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2000

Unit: Rockhouse #1

Acres: 325

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 8	554.10	554.50
Jan. 15	556.00	554.50
Feb. 1	556.60	554.00
Feb. 15	552.20	553.50
Mar. 1	552.80	553.00
Mar. 15	554.30	552.00
Apr. 1	553.00	551.50
Apr. 15	554.20	551.50
May 1	554.60	551.00
May 15	548.20	551.00
Jun. 1	548.60	551.00
Jun. 15	548.90	550.00
Jul. 1	549.00	550.00
Jul. 15	550.20	550.00
Aug. 1	549.70	550.00
Aug. 15	550.00	550.00
Sep. 1	551.60	550.00
Sep. 15	552.10	551.00
Oct. 1	552.50	551.50
Oct. 15	552.70	552.00
Nov. 1	552.90	552.50
Nov. 15	552.80	553.00
Dec. 1	552.80	553.50
Dec. 15	553.20	554.00

1999

Rockhouse #1 was in agricultural production in 1999. This was a moderate/high use unit for waterfowl. Mallards, wigeon, gadwall, and black ducks still favored this unit.

2000

Rockhouse #1 will be in agricultural production in 2000.

ANNUAL WATER MANAGEMENT PLAN
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Unit: Rockhouse #2

Acres: 150

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	553.10	554.50
Jan. 15	554.70	554.50
Feb. 1	556.00	554.00
Feb. 15	553.34	553.50
Mar. 1	552.64	553.00
Mar. 15	554.30	552.50
Apr. 1	553.36	552.00
Apr. 15	554.08	552.00
May 1	554.20	552.00
May 15	552.20	551.50
Jun. 1	552.60	551.00
Jun. 15	550.00	550.00
Jul. 1	550.50	550.00
Jul. 15	550.90	550.00
Aug. 1	550.90	550.00
Aug. 15	550.65	550.00
Sep. 1	551.70	550.00
Sep. 15	551.80	551.00
Oct. 1	551.80	551.50
Oct. 15	551.60	552.00
Nov. 1	551.90	552.50
Nov. 15	552.40	553.00
Dec. 1	552.00	553.50
Dec. 15	552.24	554.00

1999

Rockhouse #2 was in agricultural production in 1999. It got moderate use by mallards, wigeons, hooded mergansers, shovelers, and black ducks.

2000

Rockhouse #2 will be in agricultural production in 2000.

ANNUAL WATER MANAGEMENT PLAN
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Unit: Buckeye

Acres: 160

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	554.00	554.50
Jan. 15	555.90	554.50
Feb. 1	556.60	553.00
Feb. 15	552.40	552.00
Mar. 1	552.80	551.00
Mar. 15	554.30	550.00
Apr. 1	553.00	550.00
Apr. 15	554.20	550.00
May 1	554.60	550.00
May 15	548.20	550.00
Jun. 1	549.00	550.00
Jun. 15	549.00	550.00
Jul. 1	549.00	550.00
Jul. 15	550.20	550.00
Aug. 1	549.70	550.00
Aug. 15	549.70	550.00
Sep. 1	551.60	550.00
Sep. 15	552.10	551.00
Oct. 1	552.30	551.50
Oct. 15	552.60	552.00
Nov. 1	552.80	552.50
Nov. 15	552.70	553.00
Dec. 1	552.90	553.50
Dec. 15	553.00	554.00

1999

The Buckeye Unit was dewatered as quickly as possible after May. The intention was to keep water on the unit to attempt to suppress the knot grass, bermuda grass, and alligator weed. Even with drought conditions, beaver dams and plugged culverts kept the soil too saturated to manipulate. Some late discing was done. Waterfowl use was moderate, because it was one of the few units that had water during the season.

2000

Buckeye will be first priority for rehabilitation in 2000. A tentative agreement with the cooperative farmer is that the refuge will dewater early, remove beaverdams, and clean the ditches as we have done in White Springs. The farmer will be responsible for preparing the soil, applying lime and fertilizer, and planting a crop. This unit will be rent free to the farmer for two years after rehab, after which he may be charged rent or we may manage for moist soil.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
2000

Unit: Thorson Arm

Acres: 135

<u>Survey Period</u>	<u>1999 Actual Level</u>	<u>2000 Proposed Level</u>
Jan. 1	553.86	554.50
Jan. 15	555.70	554.50
Feb. 1	556.00	554.00
Feb. 15	554.90	553.50
Mar. 1	552.68	553.00
Mar. 15	554.30	552.50
Apr. 1	552.98	552.00
Apr. 15	554.10	551.50
May 1	554.60	551.00
May 15	551.36	550.50
Jun. 1	551.40	550.00
Jun. 15	551.30	550.00
Jul. 1	551.20	550.00
Jul. 15	551.10	550.00
Aug. 1	551.00	550.00
Aug. 15	551.00	550.00
Sep. 1	551.00	550.00
Sep. 15	551.98	551.00
Oct. 1	552.40	551.50
Oct. 15	552.60	552.00
Nov. 1	552.80	552.50
Nov. 15	552.70	553.00
Dec. 1	552.70	553.50
Dec. 15	552.90	554.00

1999

A drainage ditch divides the Thorson Arm Unit (TA). Both sides, TA-N & TA-S, were planted to milo in mid-August even though there was excellent moist soil plant production. The reason it was planted was because of the cooperative farming agreement which was finalized in January, 1999, that designated TA-N&S as a farm unit. In the future, farming agreements will be amended to allow moist soil management on an as needed basis in areas previously agreed to be farmed. Drought conditions caused marginal food production. Waterfowl use was low to moderate throughout the season. Mallards and black ducks and were the most common species found with occasional influxes of pintails.

2000

Thorsen Arm will be farmed by cooperative farmers.